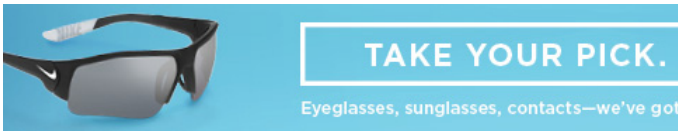
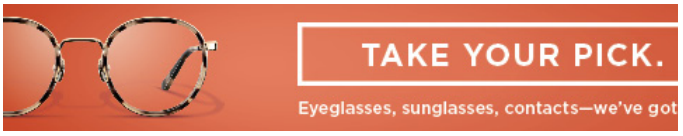


AdChoices | Spark Plug Wires | Stuttering Problem | Ignition Wires



AdChoices | Ignition Coil | EGR Cleaning | NGK Plugs

07-24-2019, 11:36 PM #1

Zeebins
Advanced Member

Join Date: Jun 2017
Location: Massachusetts
Posts: 865

Zeebins's Photos

1997 SL2

Do our autos hold up to high RPMs?

For as long as I've been driving my Saturn, I've never really drove it too hard. I know that our automatics aren't as durable as the manuals so I've been trying to make sure mine lasts as long as possible. I've never gone over 4000 rpm, expect for sometimes on the highway passing/going uphill, and I know for the last 19 years my father drove it pretty much the same way. Last night though, while (safely) racing some guy with a big wing, and winning, I noticed I was at 5100rpm before letting off. I know I didn't hurt anything, it upshifted smoothly and hasn't had an issue since. How well can the auto take shifting at high RPMs though? I know that the manuals could go to red line all day long and (probably) not have an issue but I don't really want to have to replace a valve body sooner than I need to. Is high reving part of what causes the valve body to fail though? I've never really been able to find out why some autos fail sooner than others, other than not changing the fluid often enough. Is that's all that causes them to fail though, not changing the fluid? I'm not saying that I want to always be taking every gear to 5000+, but it is kinda fun sometimes. Hoping someone here knows more about how our transmission work than I do.

...
97 SL2, auto, 117K miles
Powered by Plastic

REWARD EXCELLENCE!

Rate the quality of this post and help *Zeebins* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

quote

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07-25-2019, 07:32 AM #2

OldNuc
Super Member

Join Date: Apr 2008
Location: Far Southwestern Iowa
Posts: 66,693

OldNuc's Photos

1998 SC2

Re: Do our autos hold up to high RPMs?

Yes, but oil consumption will increase a lot and continued high RPM operation will make that increased oil consumption rate permanent. How much all this happens depends on the quality and characteristics of the oil you are using.

REWARD EXCELLENCE!

Rate the quality of this post and help *OldNuc* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

quote

07-25-2019, 08:47 AM #3

fdryer
Super Member

Re: Do our autos hold up to high RPMs?

Automatics have a few more parts; the valve body with its solenoids pwm controlled by the pcm to modulate hydraulic pressures for smooth shifting thru each gear, and the clutch packs for wet clutch shifting. Manual xmissions have the clutch hydraulics, clutch, throw out bearing, pressure plate and a xmission case with gears. Both transmissions have

Join Date: Jan 2006
Location: NYC
Posts: 43,471

fdryer's Photos

2003 L-Series 3.0L Sedan

their strengths and weaknesses with one not lasting loner than the other despite arguments from both sides.

What speed is 5100 rpm? Engine redline, electronic fuel cutoff; sohc/manual-5750 rpm, sohc/automatic-6000 rpm, dohc/automatic-6750 rpm. And an electronic speed limiter are either 105 or 121 mph, depending on which engine. I don't recall anyone mentioning which gauge hits redline first, engine rpm or speedometer. Engine redline is to protect against over revving at speed, speed redline to protect against factory issued tires with speed rating.

In one sense, while autos are always described as slush boxes, manual xmissions are bathed in xmission oil too, thus making manuals slush boxes. Depending on personal maturity, autos are slush boxes, manuals described as rowing gears.

REWARD EXCELLENCE!

Rate the quality of this post and help *fdryer* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

quote

07-25-2019, 09:10 AM #4

fetchitfido

Super Member

Join Date: May 2006
Posts: 14,405

fetchitfido's Photos

2001 SC2

Re: Do our autos hold up to high RPMs?

Quote:

> Originally Posted by **fdryer**
> *an electronic speed limiter are either 105 or 121 mph, depending on which engine.*

Engine has almost nothing to do with it, it depended on the tire option from the factory for the DOHC's (SOHC's only got 105mph). I've had DOHC's with 105, 115, 124 and 127 limiter's (all personally verified because I never used to care about speed limits). The 124 vs 127 may have just been speedometer reading error, the 127 was on a '93 SL2 with a '94 SC2 PCM while the 124 was on '96 & '97 SC2's.

That '93 SL2 had a little over 110k miles on it, sold it to a friend who played speed racer worse than I ever dared to with it. 100+ between u-turns where the cops hung out, should have been a 12-13 minute ride home from work for him and he'd be home in about 6. 3 months later the auto was dead and I bought it back to put a 5spd into it and continue thrashing the engine though not quite as hard.

REWARD EXCELLENCE!

Rate the quality of this post and help *fetchitfido* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

quote

07-25-2019, 10:01 AM #5

billr

Master Member

Join Date: Jul 2013
Posts: 5,119

Re: Do our autos hold up to high RPMs?

The speed/load of the engine, car, or trans will have no effect on wear in the VB.

REWARD EXCELLENCE!

Rate the quality of this post and help *billr* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

quote

07-25-2019, 01:30 PM #6

fdryer

Super Member

Join Date: Jan 2006
Location: NYC
Posts: 43,471

fdryer's Photos

2003 L-Series 3.0L Sedan

Re: Do our autos hold up to high RPMs?

Quote:

> Originally Posted by **fetchitfido**
> *Engine has almost nothing to do with it, it depended on the tire option from the factory for the DOHC's (SOHC's only got 105mph). I've had DOHC's with 105, 115, 124 and 127 limiter's (all personally verified because I never used to care about speed limits). The 124 vs 127 may have just been speedometer reading error, the 127 was on a '93 SL2 with a '94 SC2 PCM while the 124 was on '96 & '97 SC2's.....*

Any idea what the rpm was at each speed? This is what I mentioned, no one associates rpm with speedo numbers..... It's obvious, to me, that this isn't an engine issue but a concern about automatics holding up to 5k rpm (what speed?).

REWARD EXCELLENCE!

Rate the quality of this post and help *fdryer* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

quote

07-25-2019, 02:16 PM #7

Zeebins

Advanced Member

Re: Do our autos hold up to high RPMs?

I remember I found a calculator a while back that would give you what speed you would be going at certain what rpm based on your transmission gear ratios. I unfortunately can't find it right now though. I honestly have no idea how fast I was going, I just know it was 5100 in second gear. Be easy to figure out the speed of I could find that website

...
97 SL2, auto, 117K miles
Powered by Plastic

Join Date: Jun 2017
Location: Massachusetts
Posts: 865

Zeebins's Photos

1997 SL2

REWARD EXCELLENCE!

Rate the quality of this post and help *Zeebins* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

quote

07-25-2019, 02:33 PM #8

focusofheart

Member

Join Date: Mar 2019
Location: Southern California
Posts: 284

focusofheart's Photos

1998 SL2

Re: Do our autos hold up to high RPMs?

Quote:

> Originally Posted by **Zeebins**
> *I remember I found a calculator a while back that would give you what speed you would be going at certain what rpm based on your transmission gear ratios. I unfortunately can't find it right now though. I honestly have no idea how fast I was going, I just know it was 5100 in second gear. Be easy to figure out the speed of I could find that website*

any of these help?

https://www.youtube.com/watch?v=3HfDA1SfNnU

https://spicerparts.com/calculators/...rpm-calculator

https://wahiduddin.net/calc/calc_speed_rpm.htm

https://www.crawlpedia.com/rpm_gear_calculator.htm

...
Saturn 1998 - SL2 automatic
Singer 1952 - 301A knee driven

REWARD EXCELLENCE!

Rate the quality of this post and help *focusofheart* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

quote

07-26-2019, 12:15 AM #9

fetchitfido

Super Member

Join Date: May 2006
Posts: 14,405

fetchitfido's Photos

2001 SC2

Re: Do our autos hold up to high RPMs?

Quote:

> Originally Posted by **fdryer**
> *Any idea what the rpm was at each speed? This is what I mentioned, no one associates rpm with speedo numbers..... It's obvious, to me, that this isn't an engine issue but a concern about automatics holding up to **5k rpm** (what speed?).*

Gear Ratio's provided by Different Racing.

DOHC, MP7 and 195/60R15 tires
1st = 34mph
2nd = 55mph
3rd = 84mph
4th = 124mph (probably speed limited here, *might* hit 127mph)

SOHC, MP6 and 185/65R14 tires
1st = 34mph
2nd = 72mph
3rd = 105mph (speed limited here if you can even get it past 85)
4th = 105mph (limited to 3.7k rpm due to speed and utter lack of power, 141mph in theory at 5k rpm)

REWARD EXCELLENCE!

Rate the quality of this post and help *fetchitfido* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

quote

07-26-2019, 12:36 AM #10

fdryer

Super Member

Re: Do our autos hold up to high RPMs?

I appreciate the list but again, no reference to rpm to each speed in each gear.....

REWARD EXCELLENCE!

Join Date: Jan 2006
Location: NYC
Posts: 43,471

fdryer's Photos

2003 L-Series 3.0L Sedan

Rate the quality of this post and help *fdryer* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

quote

07-26-2019, 06:36 AM #11

OldNuc
Super Member

Join Date: Apr 2008
Location: Far Southwestern Iowa
Posts: 66,693

OldNuc's Photos

1998 SC2

Re: Do our autos hold up to high RPMs?

The road speed in each gear is dependent on several variables that are user controlled so that little item must be user calculated for it to have any real value. The calculators listed will allow completing this calculation and building a user/owner specific table.

REWARD EXCELLENCE!

Rate the quality of this post and help *OldNuc* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

quote

07-26-2019, 07:49 AM #12

fetchitfido
Super Member

Join Date: May 2006
Posts: 14,405

fetchitfido's Photos

2001 SC2

Re: Do our autos hold up to high RPMs?

Quote:

> Originally Posted by **fdryer**
> *I appreciate the list but again, no reference to rpm to each speed in each gear.....*

You specifically asked for the MPH in each gear at **5000rpm** and I marked that bit with **bold text** in your quote that I used.

The exact speed will vary a bit from car to car because of exact tire height difference's (or simply using a different size than I did for calculating) and from know ratio change's sometime between '94 and '98.

REWARD EXCELLENCE!

Rate the quality of this post and help *fetchitfido* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

quote

07-26-2019, 08:14 AM #13

ErikTande
Member

Join Date: Nov 2013
Posts: 148

Re: Do our autos hold up to high RPMs?

I hit 5000 rpm at least 5 times a day lol ¯_(ツ)_/¯

I drive my wagon like a rally car though so yeah

...
http://www.youtube.com/velocitylabs

REWARD EXCELLENCE!

Rate the quality of this post and help *ErikTande* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

quote

07-26-2019, 08:19 AM #14

OldNuc
Super Member

Join Date: Apr 2008
Location: Far Southwestern Iowa
Posts: 66,693

OldNuc's Photos

1998 SC2

Re: Do our autos hold up to high RPMs?

The Different racing chart is incorrect for the 91-02 MP-2 5th gear. Correct ratio is 0.643 91-94(the TBI equipped engine) and 0.605 for the 95-02. This has been verified by actual tooth count on the drive and driven gears.

REWARD EXCELLENCE!

Rate the quality of this post and help *OldNuc* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

quote

07-26-2019, 09:52 AM #15

alordofchaos
Super Member

Re: Do our autos hold up to high RPMs?

Quote:

> Originally Posted by **Zeebins**

Join Date: Jan 2009
Location: Central MI
Posts: 12,837

alordofchaos's Photos

2002 SC2
1998 SL2

> *I remember I found a calculator a while back that would give you what speed you would be going at certain what rpm based on your transmission gear ratios.*

calculate speed
https://spicerparts.com/calculators/...rpm-calculator

calculate rpm
http://www.wallaceracing.com/calc-rpm.php

...
I'm not worthy to grovel in the shadow of Signmaster's wisdom

11/2016 red 2002 5 spd SC2 151k DD
7/2010 Craigslist white 1997 SC2 project
12/2008 eBay silver 1998 SL2 5 spd 102k, now 201k+ miles

REWARD EXCELLENCE!

Rate the quality of this post and help *alordofchaos* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

quote

07-26-2019, 09:53 AM #16

fdryer

Super Member

Join Date: Jan 2006
Location: NYC
Posts: 43,471

fdryer's Photos

2003 L-Series 3.0L Sedan

Re: Do our autos hold up to high RPMs?

Quote:

> Originally Posted by **fetchitfido**
> .....
>
> *DOHC, MP7 and 195/60R15 tires*
> *1st = 34mph**@5k rpm?***
> *2nd = 55mph**@5k rpm?***
> *3rd = 84mph**@5k rpm?***
> *4th = 124mph (probably speed limited here, *might* hit 127mph)*
>
> *SOHC, MP6 and 185/65R14 tires*
> *1st = 34mph**@5k rpm?***
> *2nd = 72mph**@5k rpm?***
> *3rd = 105mph (speed limited here if you can even get it past 85)*
> *4th = 105mph (limited to 3.7k rpm due to speed and utter lack of power, 141mph in theory at 5k rpm)*

I added bolded notes. Is that correct?

REWARD EXCELLENCE!

Rate the quality of this post and help *fdryer* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

quote

07-26-2019, 11:58 AM #17

fetchitfido

Super Member

Join Date: May 2006
Posts: 14,405

fetchitfido's Photos

2001 SC2

Re: Do our autos hold up to high RPMs?

Quote:

> Originally Posted by **fdryer**
> *I added bolded notes. Is that correct?*

Yes it is.

REWARD EXCELLENCE!

Rate the quality of this post and help *fetchitfido* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

quote

07-26-2019, 05:05 PM #18

Zeebins

Advanced Member

Join Date: Jun 2017
Location: Massachusetts
Posts: 865

Re: Do our autos hold up to high RPMs?

Quote:

> Originally Posted by **alordofchaos**
> *calculate speed*
> *https://spicerparts.com/calculators/...rpm-calculator*
>
> *calculate rpm*
> *http://www.wallaceracing.com/calc-rpm.php*

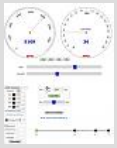
The website I originally found showed every speed on a chart. I still can't find it but I found this one that's probably better.
https://apx6u.app.goo.gl/6zXt

Zeebins's Photos

1997 SL2

There's no way I was going 50 though so I must have been in first. I thought the car shifted once but I guess it didn't.

Attached Thumbnails



...
97 SL2, auto, 117K miles
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REWARD EXCELLENCE!

Rate the quality of this post and help *Zeebins* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

quote

08-02-2019, 12:10 PM #19

Saturn Night

Master Member

Join Date: Aug 2016
Location: Leavittsburg, OH
Posts: 3,386

1995 SC2

Re: Do our autos hold up to high RPMs?

Quote:

> Originally Posted by **Zeebins**
> *For as long as I've been driving my Saturn, I've never really drove it too hard. I know that our automatics aren't as durable as the manuals so I've been trying to make sure mine lasts as long as possible. I've never gone over 4000 rpm, expect for sometimes on the highway passing/going uphill, and I know for the last 19 years my father drove it pretty much the same way. Last night though, while (safely) racing some guy with a big wing, and winning, I noticed I was at 5100rpm before letting off. I know I didn't hurt anything, it upshifted smoothly and hasn't had an issue since. How well can the auto take shifting at high RPMs though? I know that the manuals could go to red line all day long and (probably) not have an issue but I don't really want to have to replace a valve body sooner than I need to. Is high reving part of what causes the valve body to fail though? I've never really been able to find out why some autos fail sooner than others, other than not changing the fluid often enough. Is that's all that causes them to fail though, not changing the fluid? I'm not saying that I want to always be taking every gear to 5000+, but it is kinda fun sometimes. Hoping someone here knows more about how our transmission work than I do.*

The automatics aren't less durable than the manual. They can't handle as much power output as a a manual, if you are building a turbo engine for your car because the clutches begin to slip.

As far as high reving it? I haven't found there to be any issues, except that I know I am beating on my car and it isn't a good idea.

You could hurt the engine or transmission by racing your car, which grenading the differential pin will happen before ripping up the clutches.

...
"What does a Saturn owner do, at the gas station?"

"He checks the gas, and fills the oil....."

REWARD EXCELLENCE!

Rate the quality of this post and help *Saturn Night* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

quote

08-05-2019, 12:26 PM #20

cgg17

Advanced Member

Join Date: Mar 2017
Location: Pennsylvania
Posts: 640

1995 SL2
1999 SL2

Re: Do our autos hold up to high RPMs?

I wind my 1995 Sl2 out, and it has 172k on the engine. I always change the oil at or before 3k, and run either semi synthetic or full synthetic. Burns a half a quart or so every thousand miles, and seems to run well still. Getting on the highways I wind out second and third up to about 5500, and sometimes while passing it gets a 6000 treatment. I beat on it pretty good, and it still runs great.

...
1994 Sl2 5spd: 56,576 (Totaled 1/10/2018)
1995 Sl2 5spd Manual Swap: 150,062
1999 Sl2 4spd: 98,8xx

REWARD EXCELLENCE!

Rate the quality of this post and help *cgg17* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

quote

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Zeebins

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